Distribution of Blast Resistance Gene *Pi-ta* in the USDA Rice Core Collection

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The *Pi-ta* gene in rice (*Oryza sativa* L.) prevents the infection by the fungal pathogen *Magnaporthe grisea* (causal organism of rice blast) isolates containing the corresponding avirulence gene *AVR-Pita* in a gene-for-gene manner. *Pi-ta* has been effectively used for blast control over decades in the US. The United States Department of Agriculture (USDA) rice core collection consists of 1,794 entries from 114 countries. A total of 1,614 entries were screened with DNA single nucleotide length polymorphism marker derived from the *Pi-ta* gene. One hundred eighty-three entries (11%) were identified to contain the *Pi-ta* gene, and blast resistance was verified for 159 entries with pathogen inoculation. The oldest existing rice accession in the USDA-ARS National Small Grains Collection (NSGC), Ostiglia (CIor 8 obtained from Germany in 1904), contains the *Pi-ta* gene. One hundred forty-seven (80%) of the entries carrying the *Pi-ta* gene were introduced between 1971 and 2000, with the remaining 20% being introduced before 1971. These entries possessing *Pi-ta* came from 56 countries distributed across Asia, North America, South America, Europe and Africa. Thirty-two of the entries came from China while the Philippines donated 11 cultivars possessing the *Pi-ta* gene. Nineteen countries have only one, 16 countries have 2, and the remaining 19 countries have from 3 to 9 cultivars carrying the *Pi-ta*. These results demonstrate that this blast resistance gene first introduced into the NSGC rice collection over a century ago is still playing an important role in germplasm enhancement effort around the world.